

REMARKS

Claims 38-48, 50-56, 68, and 80-86 are pending in the application.

Claims 38, 46, 48, 50, 52, 68, 80 and 82 have been amended herein. The independent claims 38, 50, 68, and 80 have been amended in order to specify the type of the network and clarify the translation and determination steps of the method. No new matter has been added.

Cited Art

The references cited and applied against the claims are listed as follows: US Patent Application Publication No. US 2005/0005044 to Liu, et al. (hereinafter Liu); US Patent Application Publication No. 2003/0126360 to Camble, et al. (hereinafter "Camble"); and US Patent Application Publication No. 2003/01722143 to Edsall, et al. (hereinafter "Edsall").

Rejection of claims 38-48 and 68 under 35 USC 103(a) as allegedly being unpatentable over Liu in view of Camble and Edsall.

Applicant's claim 38 calls in part for "translating, in one pass, said logic command to a list of physical commands, wherein each of said physical commands is targeted to a different storage device, wherein the translation is performed using a mapping information including at least the relations between said at least one virtual volume and its respective logical units (LUs) and storage devices" (emphasis added).

The Office Action points to Liu as showing this feature in paragraphs [0051] – [0053]. In the cited section, Liu describes receiving an IO request from a host entity, parsing the request, and performing some operations in response to the IO request. Liu does not disclose what the actual functions that the "some operations" include. Clearly,

Liu does not teach or suggest translating a logic command including a virtual address of a virtual volume to a list of physical commands as taught by the claimed features of applicant's claim. Furthermore, Liu neither teaches nor suggests that the translation of a logic command to a list of physical commands is performed by using mapping information related to virtual volumes. In fact, a careful review of Liu reveals no hint of the use of "virtual volumes" and "logical units (LUs)" as part of the processing step of IO operations. Applicant's claimed features are simply not disclosed by Liu.

Applicant's claim 38 further calls in part for "determining, using a check point list, the amount of data to be transferred across said IP network, wherein the check-point list includes a linked list of data chunks" (emphasis added).

The Office Action points to paragraph [0081] of Liu as teaching this claimed feature. Furthermore, on Page 4 of the Office Action it is mentioned that an IO request defines parameters of the IP operation and includes the destination address, length, and the command indicating the operation to be performed. In addition, the Office Action asserts that the length parameter defines the amount of the data transferred, since more data would have a longer length, and less data would have a shorter length.

In direct contrast, the check point list- disclosed by the present application, determines the amount of the data to be transferred from or to the host. In other words, the amount of data that the host is allowed to transfer across the IP network. In contrast, the length parameter of Liu simply indicates the length of the IO request and does not affect in any way the operation of the host. Therefore, it is respectfully submitted that the parameters of the IP operation (wrapped in a frame information

structure (FIS)) cannot be viewed as the claimed check point list and that the length parameter cannot be viewed as data chunks of the check-point list.

In addition, Liu's IO requests are transferred over a SATA IO and not over an IP network. These two types of transport mediums have nothing in common. It is well known in the related art that a Serial Advanced Technology Attachment (SATA) is a computer bus primarily designed for transfer of data between the motherboard and mass storage devices, e.g., hard disk drives and optical drives, inside a computer. Whereas, an IP network (i.e., the Internet) is a data communications network that covers a relatively broad geographic area and connects two or more remote computers. The claimed feature is therefore not disclosed by Liu.

Applicant respectfully submits that the claim 38 features of "determining, using a check point list, the amount of data to be transferred across said IP network ..." and "translating, in one pass, said logic command to a list of physical commands..." are not shown or suggested by Camble or Edsall. Specifically, nowhere does the combination of Liu, Camble and Edsall teaches or suggests at least these claimed features. Accordingly, Applicant respectfully submits that claim 38 is allowable.

The pending dependent claims 39-48 are also allowable at least by virtue of their dependency from an allowable base claim and because each claim recites further distinguishing features. Withdrawal of this rejection is respectfully requested.

The analysis of the independent claim 68 is substantially analogous to the analysis of claim 38, as presented hereinabove. To avoid repetition, this claim will not be discussed in detail with the understanding that it is patentable at least for the same

reasons as claim 38. Applicant, therefore, respectfully submits that the rejection of claim 68 should be withdrawn.

Rejection of Claims 50-56 and 80-86 under 35 U.S.C. §103(a) as allegedly being unpatentable over by Liu and Edsall.

With regard to independent claims 50 and 80, each claim includes similar features as claim 38:

“translating, in one pass, said logic command to a list of physical commands, wherein each of said physical commands is targeted to a different storage device, wherein the translation is performed using a mapping information including at least the relations between said at least one virtual volume and its respective logical units (LUs) and storage devices;”

and,

“determining, using a check-point list, the amount of data to be transferred across an internet protocol (IP) network, wherein said check-point list further defines how data should be sent from an initiator host to said storage device;”

The Office Action points to Liu as teaching these claimed features. However, as discussed above, Liu fails to teach or suggest any of these claimed features. Furthermore, nowhere does the combination of Liu and Edsall show or even suggest at least these claimed features. Accordingly, Applicant respectfully submits that claims 50 and 80 are allowable.

The pending dependent claims 51-56 and 81-86 are also allowable at least by virtue of their dependency from an allowable base claim and because each claim recites further distinguishing features. Withdrawal of this rejection is respectfully requested.

Conclusion

An earnest effort has been made to be fully responsive to the Examiner's correspondence and advance the prosecution of this case. If there are any questions, the Examiner is respectfully requested to call the undersigned attorney at the number listed below. While it is believed no further fee is due, please charge any additional fees associated with this application to Deposit Account No. 50-3894.

Respectfully submitted,

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